

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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|-------------------------------------|---|-----------------|
| UNITED STATES OF AMERICA | : | |
| | : | |
| v. | : | 19-cr-850 (JSR) |
| | : | |
| PARKER H. PETIT and WILLIAM TAYLOR, | : | |
| | : | |
| Defendants. | : | |

EXPERT REPORT OF ARTUR MINKIN, PH.D.

I. Qualifications.

1. I am a Financial Economist with the Office of Litigation Economics in the Division of Economic and Risk Analysis of the Securities and Exchange Commission (“SEC”) at its Boston Regional Office. I have held this position for seven years.

2. I hold a Ph.D. in Economics from the University of Wisconsin-Madison.

3. Prior to joining the SEC, I was employed for approximately ten years as an economist working on litigation and business consulting matters.

4. I have been assisted by SEC economists who worked under my direction in the preparation of this report. I receive a salary for my work at the SEC and my compensation depends neither on my participation as an expert in this matter, nor on the outcome of the matter. I have attached my curriculum vitae as Appendix A.

II. Assignment and Summary of Opinions.

5. Parker H. Petit (“PETIT”) and William Taylor (“TAYLOR”) are former Chief Executive Officer (“CEO”) and former Chief Operating Officer (“COO”), respectively, of MiMedx Group Inc. (“MiMedx” or the “company”), a publicly traded company headquartered in Marietta, Georgia.

6. On November 19, 2020, a jury found TAYLOR guilty of conspiracy to commit securities fraud, make false filings with the SEC, and/or mislead MiMedx's auditors ("Count One").¹ On November 19, 2020, the jury found PETIT guilty of securities fraud ("Count Two").² As proven at trial, during the second, third, and fourth quarters of 2015, PETIT and TAYLOR fraudulently inflated MiMedx's revenue from four distributors in its public filings. I have been asked by the United States Attorney's Office in the Southern District of New York ("U.S.A.O. SDNY") to estimate the loss, if any, to MiMedx shareholders from the fraud.

7. The fraudulent misrepresentation of MiMedx's financial performance started on July 30, 2015 when the company announced its financial results for the second quarter of 2015.³ During the second, third, and fourth quarters of 2015, MiMedx fraudulently recognized a total of approximately \$8.26 million in net revenue from the four distributors.⁴ Hence, MiMedx's stock price was artificially inflated due to the revenue fraud as early as the announcement of its results for the second quarter of 2015.

8. MiMedx made the first public disclosure of an internal investigation into its sales and distribution practices on the morning of February 20, 2018. Specifically, MiMedx announced that the Audit Committee of its Board of Directors ("Audit Committee") had "engaged independent legal and accounting advisors to conduct an internal investigation into current and prior-period matters relating to allegations regarding certain sales and distribution practices at the Company."⁵ On February 20, 2018, MiMedx's stock price declined by \$5.72 to close at \$8.75 – a 39.5% fall from the closing price on the previous trading day – leading to a one-day drop in the company's market capitalization in excess of \$600 million.⁶ Exhibit 1 illustrates MiMedx's daily closing share price and trading volume from April 25,

¹ Jury Verdict filed on November 19, 2020.

² Jury Verdict filed on November 19, 2020.

³ *PR Newswire*, July 30, 2015, 7:30 am.

⁴ Trial Exhibit GX-0050, p. 2.

⁵ *PR Newswire*, February 20, 2018, 8:41 am.

⁶ Source: Bloomberg. The \$5.72 (39.5%) drop in MiMedx's price on February 20, 2018 reflects the raw, unadjusted change in stock price. Adjusted for market and industry effects, MiMedx's "abnormal" stock price decline was \$5.62, or 38.9%, as discussed later in this report.

2013, its listing on the Nasdaq electronic marketplace (NASDAQ), to March 18, 2020. The stock price decline on February 20, 2018 was the largest movement in the stock price history expressed both in dollar terms and as a percent change starting from on April 25, 2013 through February 20, 2018 inclusive.

9. As a result of my review and analysis, I reached the following opinions:

- In response to the disclosure of the internal investigation into sales and distribution practices on February 20, 2018, MiMedx's stock price declined \$5.62 per share (38.9%), net of market and industry effects ("abnormal stock price decline");
- This abnormal stock price decline was statistically significant using the standard 95% confidence interval;
- A portion of this \$5.62 per share abnormal stock price decline was due to the fraudulent revenue at issue in this criminal matter;
- A reasonable and conservative estimate of the artificial per share stock price inflation due to the revenue fraud as related to Counts One and Two is \$0.65 per share from February 23, 2016 to February 19, 2018; and,
- The estimated loss to shareholders from Counts One and Two is at least \$34.6 million.

10. My work on this matter is ongoing. The opinions presented herein are based on the information available to me as of the report date, and I reserve the right to supplement the opinions and analyses described in this report depending on any materials I may be provided later, including witness testimony, documents from written discovery and expert reports filed on behalf of the defendants. Sections III through V describe the bases for my opinions in greater detail.

III. MiMedx's \$5.62 per share (38.9%) abnormal stock price decline on February 20, 2018 in response to the disclosure of an internal investigation into sales and distribution practices was statistically significant.

A. Event study methodology.

11. In order to estimate whether the February 20, 2018 disclosure (the “first partial disclosure” or “corrective disclosure”) had a significant impact on MiMedx’s share price, I performed an event study. An event study is a widely-accepted methodology used in academic studies and litigation matters to measure the impact of corporate news and events such as announcements of financial results, mergers and acquisitions, etc. on the price of a security.⁷ Conducting an event study includes three steps:

- (i) *Estimating the daily stock return⁸ one would expect, absent the corrective disclosure, (the “predicted return”):* On any particular day, a stock’s price can be affected by many factors, including news that have market-wide relevance, such as unexpected changes in the economic and market environment; industry-specific news such as changes in raw materials’ prices or a merger of competitors; and company-specific news such as a corrective disclosure. The predicted return measures the portion of the stock’s return on the disclosure day that can be explained by market and industry factors and is therefore unrelated to the company-specific corrective disclosure.
- (ii) *Comparing the predicted return with the actual return on the disclosure day (the “abnormal return”):* The difference between the actual and predicted returns is called an abnormal return and represents the portion of the return on the disclosure day that cannot be explained by market and industry factors – i.e., the abnormal return reflects the part of the stock return that is related to company-specific factors such as a corrective disclosure of fraud and other daily random variation in the share price.

⁷ See, e.g., MacKinlay, A. Craig, “Event Studies in Economics and Finance,” *Journal of Economic Literature*, Vol. 35, No. 1 (Mar., 1997), pp. 13-39.

⁸ The daily stock return (“return”) is computed as the ratio of the difference between that day’s stock price and the stock price on the previous trading day over the previous trading day’s stock price. As is customary, I used the market closing prices in my analysis.

(iii) *Assessing the statistical significance of the calculated abnormal return on the disclosure day:* As is customary, I used a t-test to assess whether a given day's abnormal return is large enough in magnitude, relative to historical daily price fluctuations, to be deemed unusual or "statistically different from zero" or "statistically significant." The test involves calculating the ratio of the abnormal return on the disclosure date to the typical volatility in the stock price. An abnormal return with a t-statistic greater than 1.96 in absolute value is considered statistically significant at the conventional 95% confidence level and unlikely to be due to chance.

12. Specifically, to estimate MiMedx's predicted return on February 20, 2018, I first performed a standard statistical analysis known as regression analysis, which determines the historical relationship between MiMedx's daily stock return and the daily returns on two indices: 1) an index that captures the behavior of the overall marketplace where MiMedx is traded ("market index"); and 2) an index that captures the average stock returns of other companies in MiMedx's industry ("industry index"). I used the Nasdaq Composite Total Return Index as the market index, and the Nasdaq Biotechnology Index as the industry index.⁹

13. I estimated the regression model of the relationship between MiMedx's daily natural logarithmic returns and daily natural logarithmic returns¹⁰ on the two indices over the one-year period preceding the company's internal investigation announcement on February 20, 2018. I then used the estimated regression coefficients to calculate the predicted return on February 20, 2018, given the returns on the market index and the industry index on that day. The difference between the actual and predicted return on that day is the abnormal return.

⁹ MiMedx compares its stock performance to these two indices in its 10-K filings; see, for example, p. 35 of the 2016 10-K filed on March 1, 2017. I obtained the data series from Bloomberg. Ticker symbols for MiMedx, Nasdaq Composite Total Return Index, and Nasdaq Biotechnology Index are MDXG, XCMP, and NBI, respectively. The NASDAQ Biotechnology Index contains securities of NASDAQ-listed companies classified according to the Industry Classification Benchmark as either Biotechnology or Pharmaceuticals which also meet other eligibility criteria. <https://indexes.nasdaqomx.com/Index/Overview/NBI>

¹⁰ In this regression the logarithmic transformation is applied to full returns which is the ratio of that day's stock price over the previous trading day's stock price.

B. MiMedx's abnormal return on February 20, 2018 and mix of public information.

14. MiMedx released its February 20, 2018 press release and Form 8-K before the market opened.¹¹ The Form 8-K publicly disclosed that the Audit Committee had “engaged independent legal and accounting advisors to conduct an internal investigation into current and prior-period matters relating to allegations regarding certain sales and distribution practices at [MiMedx].”¹² Based on my review of the mix of public information around February 20, 2018, I did not identify any other new, unexpected, and value-relevant news impacting MiMedx stock price on that day.

15. The importance of the internal investigation disclosure on February 20, 2018 and its relevance to the fraud in this case became apparent from the findings of the internal investigation that were released to the public on March 17, 2020 when MiMedx restated financial statements for fiscal years 2014 – 2016 and the first three quarters of 2017. The findings of the internal investigation included “conduct that appears to have been designed to manipulate the timing and recognition of revenue,” evidence that is directly related to the allegations of improperly recognized revenue from four distributors that was proven fraudulent at trial.¹³

16. The importance of the internal investigation disclosure on February 20, 2018 and its link to the fraud in this case is also demonstrated by MiMedx's subsequent public disclosures. For example, on June 7, 2018, MiMedx released another Form 8-K stating that the Audit Committee “... concluded that the Company's previously issued consolidated financial statements and financial information relating to each of the fiscal years ended December 31, 2012, 2013, 2014, 2015 and 2016 and each of the interim periods within such years, along with the unaudited condensed consolidated financial statements included in the Company's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017, June 30, 2017 and September 30, 2017 ... , should be restated ... , and therefore, such consolidated financial statements and other financial information, any press releases, investor presentations or other

¹¹ *PR Newswire*, February 20, 2018, 8:41 am and MiMedx Form 8-K filed February 20, 2018, 8:44 am.

¹² Exhibit 99.1 to MiMedx Form 8-K filed February 20, 2018, 8:44 am.

¹³ MiMedx Form 10-K filed March 17, 2020, pp. 2 and 3; *United States of America v. Parker H. Petit and William Taylor*, Sealed Indictment filed November 25, 2019, pp. 13-35.

communications related thereto should no longer be relied upon.”¹⁴ Furthermore, the Form 8-K stated that the need to restate prior financials was a direct result of the internal investigation announced on February 20, 2018: “The determination of the need to restate was based on investigation results to date ...”^{15, 16} Hence, I concluded that MiMedx’s disclosure on February 20, 2018 constitutes the first partially corrective disclosure of the fraud in this criminal case.

17. On February 20, 2018, MiMedx’s share price declined by \$5.72 (39.5%) from the previous closing price of \$14.47 to close at \$8.75 per share. On that day, the market and industry indices decreased by 0.07% and 1.05%, respectively. After adjustments for price fluctuations due to the market and industry changes, I calculated MiMedx’s abnormal return to be -38.9% (-\$5.62 per share),¹⁷ with an associated t-statistic of -16.05.¹⁸ Since the absolute value of this t-statistic exceeds the standard threshold of 1.96, I conclude that MiMedx’s abnormal share price decline on February 20, 2018 was not due to chance or typical volatility and that there were other factors apart from the market and industry movements alone that affected MiMedx’s return on that day.

18. Based on the results of my event study analysis, I conclude that MiMedx’s share price declined significantly following the release of the February 20, 2018 8-K disclosing the launch of the internal investigation into revenue recognition practices. I also conclude that public revelation of conduct related to the revenue recognition practices that were proven fraudulent at trial is a direct result of the internal investigation announced on February 20, 2018.

IV. \$0.65 is a reasonable and conservative estimate of the share price impact of fraudulent revenue representations.

19. In order to calculate an estimate of the share price impact of the fraudulent revenue

¹⁴ MiMedx Form 8-K filed June 7, 2018, 7:02 am.

¹⁵ MiMedx Form 8-K filed June 7, 2018, 7:02 am.

¹⁶ I discuss additional relevant disclosures in Section IV. A.

¹⁷ I computed the -\$5.62 per share abnormal stock price change, measured in dollars, by multiplying the -38.9% estimated abnormal return on February 20, 2018 by \$14.47, MiMedx’s closing share price on February 16, 2018, the previous trading day.

¹⁸ The p-value of having absolute value of a t-statistic that is 16.05 or greater is less than one in one billion.

representations, I follow three steps. First, I assess whether MiMedx's share price decline on February 20, 2018 was driven by the disclosures regarding the company's internal investigation in general and the fraud proven at trial in particular. Second, I review the fraudulent revenue proven at trial and its link to the company's restatement of financials. Finally, I provide details of my calculation of the estimate of the share price impact of the fraud.

A. Additional days following the February 20, 2018 disclosure contain partial corrective disclosures of the revenue misstatements and provide a direct link to the revenue fraud proven at trial.

20. To assess whether MiMedx's share price decline on February 20, 2018 was driven by the disclosures regarding the company's internal investigation in general and the fraud proven at trial in particular, I reviewed the total mix of information disclosed starting in July 2015 and extending through the company's revenue restatements for 2014 – 2017 announced on March 17, 2020. I also reviewed the trial exhibits describing inflated revenue reporting from the sales to the four distributors. My review of public information included analyst reports, news commentary, conference call transcripts and SEC filings.

21. Subsequent to February 20, 2018, when the Audit Committee announced an independent investigation into MiMedx's sales and distribution practices, the company issued multiple corrective disclosure announcements. Specifically,

- *June 7, 2018:* Before the market open, the Audit Committee stated that as a result of the internal investigation, the company would restate financial results going back to 2012.¹⁹ On this day, MiMedx also announced the departure of its Chief Financial Officer as well as its Corporate Controller and Treasurer.²⁰
- *July 2, 2018:* Before the market open, MiMedx issued an 8-K announcing the departure

¹⁹ MiMedx Form 8-K filed June 7, 2018, 7:02 am.

²⁰ MiMedx Form 8-K filed June 7, 2018, 7:02 am.

of PETIT and TAYLOR as its CEO and COO, respectively. The 8-K also stated: “These resignations ... arise, in part, from information the Audit Committee has identified through its previously announced independent investigation ...”²¹ Hence, the news of the departures of PETIT and TAYLOR relates to the internal investigation of their roles in sales and distribution practices at the company.

- November 7, 2018:* Before the market open, MiMedx issued an 8-K disclosing the delisting letter from NASDAQ.²² In this 8-K the company also provided information on its progress towards becoming current with its financial reporting: “... the Company indicated that it has determined that, for the restatement period, it must conduct an assessment of revenue recognition for **all** of the Company’s sales, which will prolong the amount of time it will take for the Company to prepare the restated financial statements.”²³ The delisting was a direct result of the prolonged time frame it would take the company to restate its financial statements and thus it was another outcome of the internal investigation.²⁴
- March 17, 2020:* Finally, the full extent of the revenue overstatement was revealed after the market close on March 17, 2020, when MiMedx filed its Form 10-K. The Form 10-K described the findings of the internal investigation launched in 2018, including a description of conduct in connection to revenue misrepresentations from the four distributors related to the allegations and proven fraudulent at trial.²⁵

²¹ MiMedx Form 8-K filed July 2, 2018, 8:03 am.

²² MiMedx Form 8-K filed November 7, 2018, 8:24 am.

²³ MiMedx Form 8-K filed November 7, 2018, 8:24 am, emphasis added.

²⁴ On September 20, 2018, NASDAQ’s hearing panel agreed to grant MiMedx a listing extension until February 25, 2019 subject to regaining compliance with SEC reporting obligations by that date. On October 31, 2018 the company provided NASDAQ with an interim progress report explaining why it will no longer be able to regain compliance by February 25, 2019, leading to the delisting decision by the panel. See MiMedx Form 8-K filed November 7, 2018.

²⁵ MiMedx Form 10-K filed March 17, 2020, 5:32 pm, pp. 2 and 3; *United States of America v. Parker H. Petit and William Taylor*, Sealed Indictment filed November 25, 2019, pp. 13-35.

22. On each of these four disclosure days,²⁶ MiMedx's stock price experienced a statistically significant decline. If some or all of the additional corrective disclosure dates listed above were to be used in estimating the share price impact of the fraud, the result would be a larger cumulative abnormal stock price decline than the sole decline on February 20, 2018 and, consequently, larger investor losses due to the fraud.

23. Overall, I conclude that MiMedx's \$5.62 per share abnormal price decline on February 20, 2018 is a reasonable and conservative measure of the price impact of the disclosure of the investigation into MiMedx's sales and distribution practices. A portion of this stock price decline is due to the fraudulent revenue representations proven at trial.

B. Background on MiMedx's revenue misrepresentation proven fraudulent at trial and its link to the restatement of MiMedx's financials.

24. At trial, MiMedx was proven to have fraudulently recognized revenue through purchase orders placed by four distributors – CPM Medical Consultants, LLC ("CPM"), SLR Medical Consulting, LLC ("SLR"), Stability Biologics ("Stability"), and First Medical Co. ("First Medical") – during the second, third and fourth quarters of 2015.

- The company inflated revenue for the second quarter of 2015 by \$1,347,854 through purchase orders placed by CPM.²⁷
- The company inflated revenue for the third quarter of 2015 by \$4,663,050 and \$2,187,110 through purchase orders placed by SLR and Stability, for a total of \$6,850,160.²⁸

²⁶ For news published before 4 PM on a trading day, the impact day of the news is the same day. For news published after 4 PM, the impact day is the next trading day. For news published on non-trading days, the impact day is the next trading day.

²⁷ Trial Exhibit GX-0050, p. 3.

²⁸ Trial Exhibit GX-0050, p. 4.

- The company inflated revenue for the fourth quarter of 2015 by \$450,675 and \$2,540,000 through purchase orders placed by Stability and First Medical, for a total of \$2,990,675.²⁹
- The full-year net revenue inflation totals \$8,261,835 after adjusting for payments, discounts and write-downs.³⁰

25. Absent the revenue inflation, MiMedx would have missed its revenue guidance for the third and fourth quarters of 2015 and for the full year 2015. MiMedx would have also missed analysts' revenue forecasts consensus for the second quarter of 2015, and substantially missed analysts' consensus for the third and fourth quarters of 2015 as well as for the full year 2015.³¹

26. MiMedx's March 17, 2020 Form 10-K disclosed the findings of the internal investigation by describing "conduct that appears to have been designed to manipulate the timing and recognition of revenue." The description of the conduct reflects the revenue inflation from the four distributors that was proven fraudulent at trial. In addition to publishing the findings of the internal investigation, MiMedx's March 17, 2020 Form 10-K also addressed revenue recognition problems by restating revenue for prior periods. Hence, I conclude that the \$8,261,835 net revenue inflation proven at trial is a part of the total fiscal year 2015 revenue overstatement presented in the Form 10-K.³²

C. MiMedx's stock price inflation due to revenue misrepresentations proven fraudulent at trial is at least \$0.65.

27. To estimate how the revenue overstatement impacted MiMedx's share price in the different fiscal periods, I assume that the \$5.62 per share inflation evolved year by year in proportion to the amount of revenue that had to be restated for each year.

28. MiMedx's March 17, 2020 Form 10-K contains its restated consolidated statements for

²⁹ Trial Exhibit GX-0050, p. 5.

³⁰ Trial Exhibit GX-0050, p. 2.

³¹ Trial Exhibit GX-0050, pp. 13-15.

³² MiMedx Form 10-K filed March 17, 2020.

the years ended December 31, 2014, December 31, 2015, and December 31, 2016,³³ as well as restated financial statement information for the first, second, and third quarters of 2017.³⁴ Even though it was proven at trial that MiMedx's quarterly financial statements in 2015 overstated revenue starting with Q2 2015, the March 17, 2020 Form 10-K only provides revenue restatements at the annual level. Hence, I conservatively assume that the fraud artificially inflated the stock price starting with the announcement of FY 2015 results on February 23, 2016, several months after the announcement of Q2 2015 financial results.³⁵

29. By October 26, 2017, the day the financial results for Q3 2017 were released,³⁶ MiMedx had cumulatively overstated revenue by a total of \$70.744 million.³⁷ Revenue overstatement for the year that ended December 31, 2015 was nearly half of this total, \$34.165 million (48.3%). Revenue overstatement in the year that ended December 31, 2015 was not only the largest in dollar terms but also as a percent of originally reported revenue for that year (18.2%). Exhibit 2A shows the restated revenue, the revenue overstatement, and the previously reported revenue as the sum of the two, for the three restated full fiscal years (2014, 2015, and 2016) and the combined first three quarters of 2017. Exhibit 2B shows the overstatement as a percentage of originally reported revenue across these periods. Finally, Exhibit 2C shows the revenue overstatement in the same four financial periods, and highlights the \$8.26 million fraudulent revenue representation for the second, third, and fourth quarters in 2015 tied to the four distributors and proven at trial.

30. I next allocate the \$5.62 conservative stock price inflation across the four fiscal periods affected by the restatement (Exhibit 3). Column [3] shows the amount of revenue overstatement in each period, column [4] shows the running total amount of revenue overstatement, and column [5] shows how much of the ultimate \$70.744 million in overstated revenues had been reported as of the end of each

³³ MiMedx Form 10-K filed March 17, 2020, p. 55.

³⁴ MiMedx Form 10-K filed March 17, 2020, p. F-49.

³⁵ *PR Newswire*, February 23, 2016, 7:30 am.

³⁶ *PR Newswire*, October 26, 2017, 2:00 pm.

³⁷ Exhibit 3, Column [4].

period. On February 23, 2016, MiMedx announced its financial results for the year ending on December 31, 2015 that overstated revenue by \$34.165 million (column [3]), which when combined with the overstatement from FY 2014 summed to \$47.131 million (column [4]), or 66.6% of the ultimate \$70.744 million in overstated revenues (column [5]). Applying that apportionment factor to the \$5.62 ultimate price inflation, yields inflation of \$3.75 in the stock price (column [6]) on February 23, 2016, or \$2.72 attributable to the FY 2015 filing on top of the \$1.03 attributable to the FY 2014 filing (column [7]). However, the \$8.26 million revenue misrepresentations in FY 2015 proven fraudulent at trial account for 24.2% of the overstated revenues in FY 2015. Hence, I conservatively estimate that, starting on February 23, 2016, the value of the fraudulent revenue representations proven at trial is \$0.65 per share.³⁸

V. Estimated loss to shareholders from the fraudulent revenue inflation is at least \$34.6 million.

31. In this section, I estimate the loss to MiMedx shareholders from the fraudulent revenue inflation. There are three main inputs to this analysis: 1) the dates of the beginning and end of the period when MiMedx share price was artificially inflated (the “inflation period”); 2) information on shareholders’ holdings and transactions in MiMedx stock during the inflation period; and 3) the amount of artificial inflation in the share price, i.e., the amount by which market participants who purchased during the inflation period overpaid for their shares. I calculate loss to the shareholders who purchased MiMedx’s common stock at inflated prices during the inflation period and held at least some of those shares past February 20, 2018, the first partial disclosure date. Shareholder loss is offset by any gains that shareholders may have received from purchasing shares prior to the inflation period and selling those shares at inflated prices prior to the February 20, 2018 disclosure.

32. Regarding the first input, the inflation period, based on the discussion in the preceding section, I assume that the artificial inflation in MiMedx share price began at least by February 23, 2016, the day the company announced its FY 2015 results which included all of the revenue proven fraudulent

³⁸ \$0.65 = \$2.72 x 24.2%. The result of this calculation is conservatively rounded down to full cents.

at trial. I assume that artificial inflation in MiMedx stock price ended on February 20, 2018, the date of the disclosure that the Audit Committee of the company retained independent legal and accounting advisors to conduct an internal investigation into sales and distribution practices and the accounting treatment of certain distributor contracts.

33. Regarding the second input, information on shareholder holdings and transactions, I estimate share ownership and trading by institutional shareholders of MiMedx based on quarterly snapshots of each institution's holdings obtained from FactSet.³⁹ I estimate transactions that occur within a quarter by allocating quarterly net shares purchased (sold) to each day in proportion to that day's trading volume.

34. FactSet does not include holdings of retail shareholders and some institutional shareholders who are not required to file Form 13F with the SEC. The exclusion of these holdings understates my estimate of losses as some of these shareholders likely purchased MiMedx shares during the inflation period and held past February 20, 2018. As shown in Exhibit 4, institutions included in FactSet did not hold all of MiMedx shares outstanding during the period December 31, 2015 through March 31, 2018. In fact, these institutions held between 42.7% and 81.3% of shares outstanding during this period. In Q1 2018, the quarter of MiMedx's February 20, 2018 announcement, the institutional ownership in the company's stock was 78.5% of shares outstanding. The ownership by institutions during most of the inflation period suggests that the shareholder loss based solely on FactSet institutions will represent a substantial fraction of, but not all shareholder loss.

35. I base my estimate of the third input, the amount of artificial inflation in share price, on MiMedx abnormal share price decline on February 20, 2018 and, as described in prior sections, the

³⁹ Institutional investment managers with at least \$100 million in assets under management are required to file Form 13F with the Securities and Exchange Commission on a quarterly basis. For certain securities, including equity securities traded on an exchange (like MiMedx during the relevant period), the institutional investment manager is required to report the name, class, CUSIP number, and the number of shares and market value of the holding as of the end of the quarter of the report. <https://www.investor.gov/introduction-investing/investing-basics/glossary/form-13f-reports-filed-institutional-investment>. FactSet's institutional holdings data are based on information from Forms 13F, other SEC filings, and other sources. See FactSet Ownership and FactSet Mutual Funds – Data Collection Methodology.

proportion of the overall revenue restatement that was due to the fraud proven at trial. I employ the dollar amount of \$0.65 as a conservative estimate of artificial inflation throughout the period from February 23, 2016 through February 19, 2018. This is another source of understatement in my estimate of shareholder loss.

36. I estimate the dollar amount of loss to each institution by multiplying \$0.65 by the number of shares purchased, offset by shares sold, during the inflation period and held past February 20, 2018.

37. For example, LahiTapiola, an institution listed on line 19 of Exhibit 4, held zero MiMedx shares in the quarters around 2/23/2016, the date when I assume the shares started to be artificially inflated due to the fraud. Hence, I estimated that on February 23, 2016, LahiTapiola held zero shares of MiMedx. Based on its reported quarterly holdings (Exhibit 4), by June 30, 2017 LahiTapiola purchased a total of 689,634 shares. As of September 30, 2017, LahiTapiola reported holdings of 509,634 MiMedx shares, a decrease of 180,000 shares since June 30, 2017 (Exhibit 4). LahiTapiola continued to report the same number of MiMedx shares held at least through March 31, 2018, the quarter ending immediately after the February 20, 2018 disclosure. Therefore, I estimated that LahiTapiola net purchased a total 509,634 shares at inflated prices and held these shares past the February 20, 2018 disclosure. As a result of its net purchases at the artificially inflated price, LahiTapiola suffered a loss of \$331,262 (= 509,634 shares x \$0.65 artificial per share inflation) listed on line 19 of Exhibit 5 in the last column.

38. Under the assumptions outlined in this section, the resulting aggregate investor loss is \$34.6 million (see Exhibit 5).



Artur Minkin, Ph.D.



Date